

The Design & Testing of a Personalized Digital Health Platform: **A Case Study in Relationship-Centered Design**

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Track Chair

- Digital healthcare delivery research & evaluation
- Applied social & behavioral science for public health
- Relationship-centered solution design
- The practice of innovation + gathering



SPECIAL INTERESTS:

- Digital health implementation
- Remote patient monitoring
- Provider/Patient Burnout

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Sara's background



- Trained as a medical sociologist/DrPH [Columbia University, USA] w/ focus on qualitative research methods & measurement
- *Formerly* faculty w/ NYU Langone Health Center for Healthcare Innovation & Delivery Science
- *Currently*
 - Research Director @ HITLAB (Healthcare Innovation & Tech Lab)
 - Independent consulting & collaboration

Healthcare delivery | digital health | innovation

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Relationship-centered care

Relationship-Centered Care



“In the current era (just as in the past), the social role and privileges of the healer seemed to be founded upon meaningful *relationships* in health care, not just on technically appropriate transactions within these relationships.”

[Describing findings from the Pew–Fetzer Task Force on psychosocial ed. in healthcare 1992]

[J Gen Intern Med.](#) 2006 Jan; 21(Suppl 1): S3–S8.

doi: [10.1111/j.1525-1497.2006.00302.x](https://doi.org/10.1111/j.1525-1497.2006.00302.x)

PMCID: PMC1484841

PMID: [16405707](https://pubmed.ncbi.nlm.nih.gov/16405707/)

Relationship-centered Care

A Constructive Reframing

[Mary Catherine Beach](#), MD, MPH,^{1,2} [Thomas Inui](#), ScM, MD,³ and the Relationship-Centered Care Research Network*



From User- to Relationship-Centered Design

USER CENTERED



RELATIONSHIP-CENTERED

Design driven by user needs

Driven by desire to facilitate relationships

Design with real people- “the user”- in mind.

Design with the goal of strengthening a bond between people or people and organizations.

From designing for tasks and transactions to facilitating potential to exchange value.



GoodLife Media Case Study

“Doctor in your pocket”

[Robots & AI] are increasingly being discussed in the context of healthcare, alongside the growing curiosity of where and how technology will be integrated in the practice of medicine. Some nervously question—“will doctors be replaced by technology?”” -Sai Balasubramanian in Forbes, 2021





About GoodLife

- GoodLife Media™ is a precision health communication solution
- Created by McClennan Group, NYC
- In partnership with top 5 US Payor



Solution components

- Card sort & personalization approach
- Behavioral economic inspired content strategy
- Communication infrastructure
- KPI dashboards

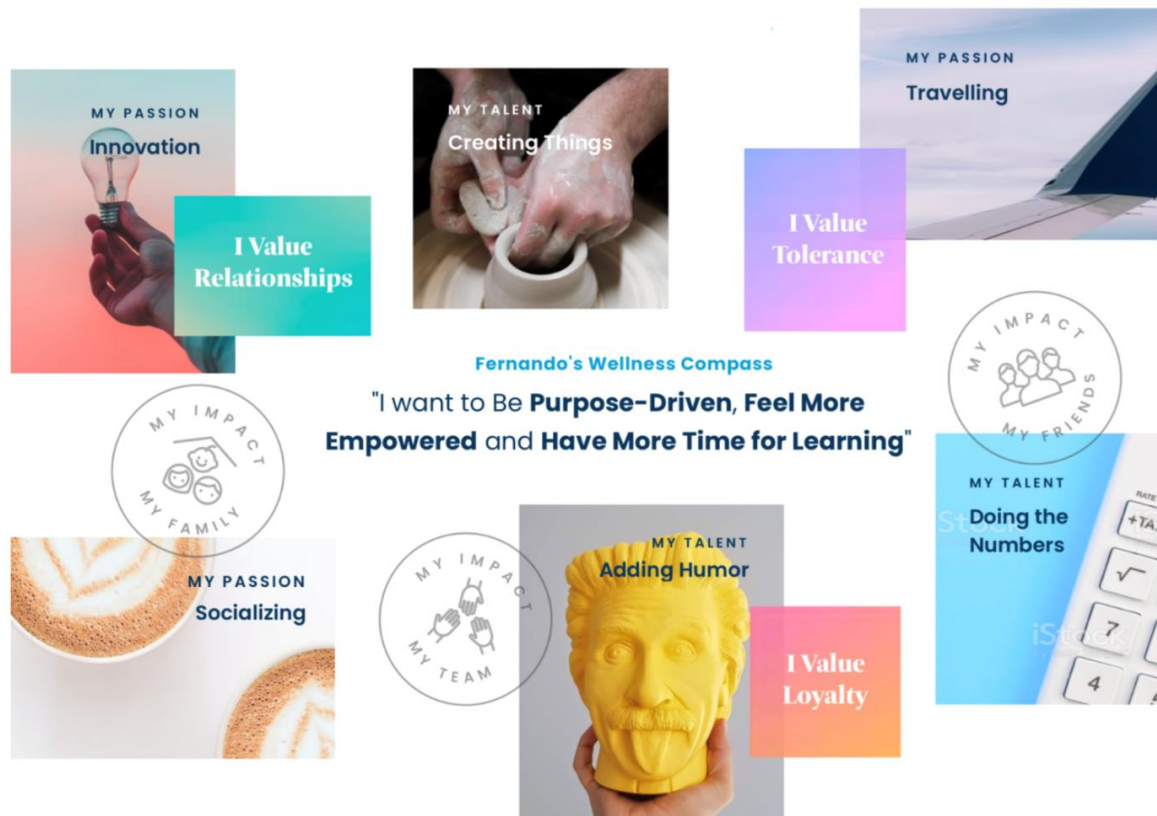
Goals, Values, Passions, Impacts & Talents

Card Sort

-Conceived in collaboration with AARP Life Reimagined Institute.

-Hard to get non-clinical data to tap into intrinsic motivation.

-86.5% completion rate



Personalization Approach

Built from data on 80K lives, with 101.9M data points

Multiple Datasets and sources:

- TPIVG: card sorting game data (collected once)
- Periodic participant-provided inputs around goals and challenges
- Compliance report at the member level (provided weekly)
- Clinical health data (PHI, PII) (provided weekly)
- Payor-provided SDOH data (coming)

Data Science approach

- ML clustering algorithms (K means) and silhouette analysis to identify groups of similar or related data points and segment effectively. Allowed us to scalably identify impactful messaging components and customize communication effectively.
- Each cluster is further segmented by conditions and healthcare gaps which drive overall tone, content, subject lines, and CTAs.

RESULT: 108 communication streams



Social Enthusiasts are the social butterflies. They prioritize their friendships and other relationships. They desire to be loved and bring joy to others.

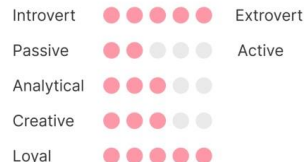
Goals

- Be loved - **19.2%**
- Have more time with the family - **14.1%**
- Be appreciated - **10.6%**

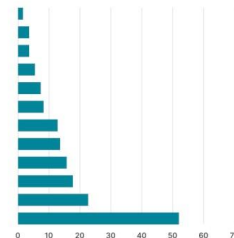
Potential Tones

- Charismatic
- Unexpected & Witty
- Helpful

Personality



Osteoporosis Management in Women Who Had a Fracture
Statin Therapy for Patients with Cardiovascular Disease
Osteoporosis Testing in Older Women
Disease Modifying Anti-Rheumatic Drug Therapy in Rheumatoid Arthritis
Breast Cancer Screening
Medication Reconciliation Post-Discharge
Medication Adherence
Plan All-Cause Readmissions
Colorectal Cancer Screening
Adult BMI Assessment
Comprehensive Diabetes Care
Controlling High Blood Pressure





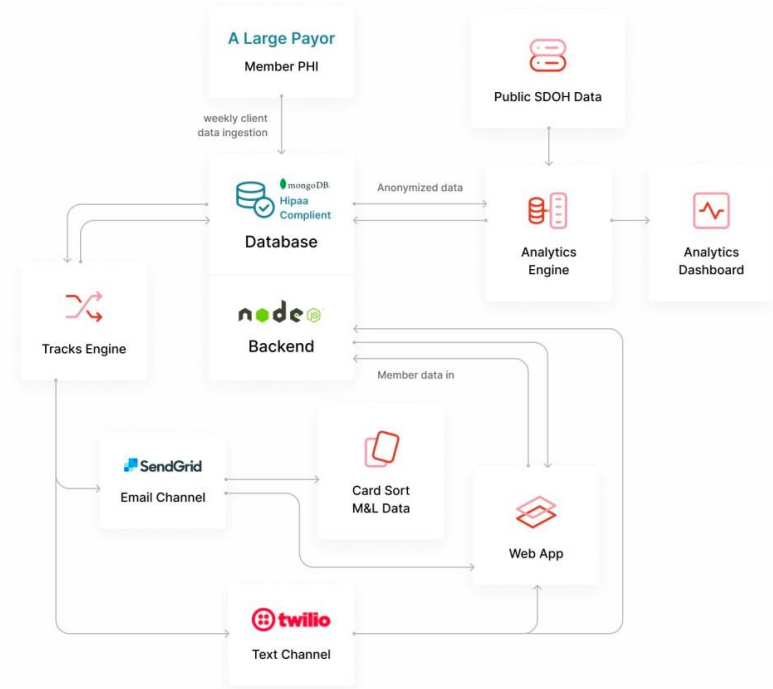
Behavioral science-based content strategy

The personalization + relationship focus of content are key to the GoodLife solution's content strategy:

1. Communications pathways designed to be experienced as asynchronous, ongoing dialogues as one might enjoy with a trusted friend or care provider.
2. Evidence- based (clinical, behavioral and social science principles) messaging proven to engage and impact the way that people conceptualize and address health-related issues.
3. Health Content Library featuring sequential communications designed to educate recipients around basic health-related topics (e.g. importance of blood pressure awareness) and principles of health management (e.g. annual wellness exams).
4. Systematic approach to developing and implementing these strategies, allowing us to monitor, test, and tweak tactics in real time based on their success.

GoodLife's communication infrastructure

- An analytics engine designed to power our real-time Analytics Dashboard
- Member personal health information (PHI), provided by the large payor every week and including claims data allowing us to measure gap closures.
- A HIPAA-compliant database designed to hold member PHI as well as the communication streams and card sorting data.
- SendGrid and Twilio implementations designed to maximize the deliverability of content by allowing for participants to seamlessly receive communications via text and/or email.
- A web application that provides users with a responsive experience, no app download needed.
- SDOH data curated from public databases.



GoodLife KPI Dashboards



Next steps

- Refinement with greater flexibility
- Collaboration with Black Health
- Application to support other public health programming

Thank you!

Reach out with questions or for the full report on GoodLife Media: sak141@columbia.edu